

# **TERM AGREEMENT CATEGORIES OF SERVICE**

The following descriptions and minimum requirements for prequalification are to be used as a guide in determining areas of specialization/expertise for which firms may apply for prequalification.

Where the minimum qualification indicates Idaho licensing or registration, that individual must be a full-time employee who has acted in a leadership role on previous projects. Sub-consultants, individuals who have committed to work for the firm in the future or persons on retainers can not be used to meet the minimum requirements for prequalification. The experience of the individuals must be relevant to the category of service, and the work must have been performed within the last three years.

Firms must also have support staff (engineers and/or technicians) with pertinent experience or training. The lack of relevant experience or training of the support staff may result in non-prequalification.

Firms must be specific in listing all experience which qualifies them for each category.

At the department's discretion, firms requesting prequalification may be required to submit additional documentation outlining their past experience and capabilities of current staff.

*Updated August 2007*

[Click on the name to view the description of that service category.](#)

**A. BRIDGES & STRUCTURES**

- A1. Bridge Design
- A2. Bridge Inspection
- A3. Hydraulics
- A4. Load Rating

**B. ROADWAY DESIGN**

- B1. General Roadway Design
- B2. Traffic Services
- B3. Pathways

**C. SURVEY & MAPPING**

- C1. Location Survey
- C2. Construction Survey
- C3. Land Survey
- C4. Global Positioning Survey (GPS)
- C5a Aerial Mapping –  
Photogrammetric Mapping
- C5b Aerial Mapping –  
Surveying for Mapping
- C6. Subsurface Utility Engineering

**D. ARCHITECTURE**

- D1. Building Design
- D2. Building Inspection
- D3. Landscape Design
- D4. Interior Design
- D5. Mechanical Design
- D6. Electrical Design
- D7. Structural Design/Analysis

**E. ENVIRONMENTAL**

- E1. Report Documentation/Mgmt
- E2. Noise Studies
- E3. Air Quality Analysis
- E4. Wetlands
- E5. Water Quality Analysis
- E6. Biological Studies
- E7. Archaeological/Cultural
- E8. Hazardous Materials/Waste
- E9. Visual Assessment

**F. TRANSPORTATION PLANNING**

- F1. Public Involvement
- F2. Public Relations
- F3. Public Opinion Research
- F4. Photography
- F5. Videography
- F6. Graphic Arts
- F7. Studies and Plans
- F8. GIS Mapping & Planning
- F9. Visualization Services

**G. CONSTRUCTION  
ENGINEERING & INSPECTION**

- G1. Project Management
- G2. Partnering
- G3. Value Engineering
- G4. Claim Analysis
- G5. Audit
- G6. Construction Inspection
- G7. Construction Materials Testing

**H. GEOTECHNICAL/MATERIALS**

**H1. PROJECT DEVELOPMENT**

- H1a. Materials Report Phase 1
- H1b. Materials Report Phase 2
- H1c. Materials Report Phase 3
- H1d. Materials Report Phase 4
- H1e. Materials Report Phase 5
- H1f. Pavement Rehabilitations
- H1g. Geotechnical Engineering

**H2. SUBSURFACE INVESTIGATION**

- H2a. Drilling & Sampling
- H2b. Exploration Supervision and  
Analysis

**H3. Materials Laboratory Testing**

**H4. Non-Destructive Testing for  
Pavements**

**J. INTELLIGENT TRANSPORTA-  
TION SYSTEMS (ITS)**

- J1. ITS Planning
- J2. ITS Design
- J3. ITS Implementation/Deployment

## **A. BRIDGES & STRUCTURES**

*Idaho professional engineering license required for categories A1 through A4.*

### **A1. Design**

This category of service consists of the comprehensive design of structures, including all detailing (except shop details), the determination of all plan quantities, plans and specifications. Structures shall be designed in accordance with current AASHTO LRFD (Load and Resistance Factor Design) Bridge Design Specifications and the procedures outlined in the ITD Bridge Design LRFD Manual, using the specified design loading. Services may include review and checking submitted shop drawings and designer related support during construction.

### **A2. Inspection**

This category of service consists of the routine inspection of bridges as described in 23 CFR 650.300 and the AASHTO Manual for Condition Evaluation of Bridges. In addition to performing bridge inspections, services include preparation of reports for each bridge in electronic format, inventorying new bridges and meeting with local highway officials to discuss maintenance needs of their bridges. Services may also include scheduling and performing supplemental inspections and performing in-depth bridge inspections.

### **A3. Hydraulics**

This category of service includes preparation of hydraulic reports for bridges and culverts, design of storm drains, drainage and irrigation facilities, bridge scour evaluations, and evaluation of flood potential and hazards. The consultant shall follow the procedures outlined in the ITD Design Manual and as directed by the Hydraulics Engineer.

### **A4. Load Rating**

This category of service consists of the analysis of bridges to determine their live load carrying capacities in accordance with the AASHTO Manual for Condition Evaluation of Bridges. Inventory and operating ratings shall be calculated for the H and HS trucks and also for Idaho's Type 3, 3S2, 3-3 and 121 kip trucks. Analysis methods may include any of the following: allowable stress, load factor, and load and resistance factor. Deliverables shall be in an electronic format as specified by ITD.

## **B. ROADWAY DESIGN**

*Idaho professional engineering license required for categories B1 through B3.*

### **B1. General Roadway Design**

This category of service includes:

Concept Study: Includes benefit/cost analyses on all alternatives utilizing surveying, mapping, topography, and the materials investigation. Design criteria and controls used in developing alternatives shall be in accordance with the procedures outlined in the ITD Design Manual. Completion of the Concept Report, including preliminary cost estimates, may also be included.

Project Development: Includes the design of any or all phases of a roadway in accordance with the procedures outlined in the ITD Design Manual, including outline specifications. The design shall conform to applicable standards.

Other areas of service: Includes clearances, permits, railroad encroachments and crossings, utilities, hearings, and location and/or design study report.

### **B2. Traffic Services**

This category of service includes:

Traffic Control, Signalization, Signing, and Lighting: Includes delineation, signing, illumination, construction traffic control plan, pavement markings, traffic signals, railroad crossings, and intersection layout and design. The design of all traffic control devices shall conform to the Manual on Uniform Traffic Control Devices for Streets and Highways as adopted by the State, and be performed in compliance with the ITD Traffic Manual, Standard Drawings, Standard Specifications for Highway Construction and Supplemental Specifications, Roadside Design Guide, the AASHTO Roadway Lighting Design Guide, and the ITD Design Manual.

Capacity Analysis: Includes capacity calculations for freeways and other multi-lane roadways, two-lane roads and signalized as well as un-signalized intersections. Also includes analysis of passing needs and opportunities. For signalized intersections, includes preparation of signal timing and coordination plans, including developing and implementing optimized signal timing.

Transportation Impact Studies: Includes preparation of transportation impact studies or review of transportation impact studies prepared by others. Studies shall be prepared in accordance with the ITD Requirements for Transportation Impact Study.

### **B3. Pathways**

This category of service includes design of bicycle facilities and/or pedestrian pathways in accordance with ITD Design Manual and AASHTO standards. Areas of work include planning, concept preparation, design, estimates, specifications, construction support, and operation and maintenance cost considerations.

## C. SURVEY & MAPPING

*Idaho professional licensure required as identified. Deliverables shall be in MicroStation format.*

### **C1. Location Survey**

This category of service includes surveys required to furnish all data for design of highways, bridges, buildings, drainage and/or irrigation, and may require the following:

- 1) Determine centerline control for existing highway corridor;
- 2) Hydraulics information including canals, streams, rivers and drainage systems;
- 3) Locate established wetland areas;
- 4) Aerial mapping control and map certification;
- 5) GPS (Global Positioning by Satellite) services for mapping control, land line establishment, topographic surveys or other surveys which may require this type of survey. May require knowledge and equipment necessary to incorporate existing NGS control into the project control;
- 6) Topographic Maps. Maps for highway corridors or other improvements which furnish all natural or man-made features, in vertical and horizontal position, on manuscript or electronically. These maps may require aerial mapping manuscripts and photos at specified standard accuracy; and/or
- 7) Establish horizontal and vertical control along highway using NGS and ITD control.

### **C2. Construction Survey**

*Must be licensed in the State of Idaho as a Professional Land Surveyor or Professional Engineer and have experience in construction surveys acceptable to ITD.*

This category of service includes surveys to furnish all staking for control of vertical and horizontal positions of roadways, structures, and right-of-ways. This work requires the ability to work from plans and contracts to furnish the necessary surveys to maintain required accuracy for all phases of the project. This category of service also includes excavation and embankment quantities for roadways or buildings and quantity measurement for all linear or volume items.

### **C3. Land Survey**

*Must be licensed in the State of Idaho as a Professional Land Surveyor.*

This category of service includes surveys to determine boundary lines, monument re-establishment and corner perpetuation. It also includes writing legal descriptions for property acquisition and production of Record of Surveys or Right-of-Way Plats. Record surveys as required by law.

### **C4. Global Positioning Survey (GPS)**

This category of service includes survey and mapping control for location surveys under direction of Design Consultants, Location Surveyors or in support of Idaho Transportation Department Location Sections.

### **C5a. Aerial Mapping - Photogrammetric Mapping and Services**

This category of service includes photogrammetric mapping, stereoscopic plotting, digital terrain modeling (DTM), LIDAR, digital orthographic photography, and aerotriangulation, bridging, and analytics. The mapping accuracy and scale of completed manuscripts will be specified for the type of project and required results. All mapping data shall be field audited. Hard Surface Data and Field Audit Data collected shall be incorporated into the map data.

### **C5b. Aerial Mapping - Surveying for Mapping**

This category of service includes surveying for aerial mapping, control surveying, location surveying, GPS surveying, running levels, locating, placing, and surveying aerial photography pre-marks, and field audits of map data.

### **C6. Subsurface Utility Engineering (S.U.E.)**

This category of service includes establishing the location of existing underground utilities within prescribed boundaries on various projects. Work will include all necessary research, permitting, field investigations, test holes, plotting, design analysis, CADD file preparation and recommendations relative to impacts on existing or proposed utility systems. Work shall comply with all applicable utility damage prevention laws and includes coordination with utility inspectors as required. Traffic control shall conform to the Manual on Uniform Traffic Control Devices for Streets and Highways as adopted by the State.

## **D. ARCHITECTURE**

*Professional registration or certification required as identified.*

### **D1. Building Design**

*Idaho professional architect registration required.*

This category of service includes:

Preliminary Design: Prepare preliminary designs to indicate design concept, code requirements, materials incorporated and overall dimensioning. Indicate traffic flow, parking, walkways and vegetation areas on site plan. Prepare preliminary cost estimate.

Design Development: Prepare building cross sections; coordinate structural, mechanical, electrical and civil engineering concepts with a revised cost estimate. Prepare outline specification.

Construction Documents: Prepare plans and specifications for bid documents. Prepare final construction cost estimate.

Historic Restoration: Provide expertise in the restoration of sensitive historic buildings.

Bidding: Answer questions during bidding, conduct prebid conference and prepare addenda as required.

Construction Observation: Review shop submittals, make periodic site visits to observe construction and issue directives to the contractor. Review pay requests for compliance. Conduct final acceptance walk through and prepare a final punch-list. Review Operations and Maintenance Manuals.

### **D2. Building Inspection**

*Idaho or ICBO certification for building inspection required.*

This category of service includes attendance at preconstruction meeting and reviewing plans, specifications and shop submittals. It also includes periodic inspections during construction to assure materials are installed in accordance with codes and the construction plans and specifications. Note discrepancies in construction and inform the architect and owner.

### **D3. Landscape Design**

*Idaho professional landscape architect registration required.*

This category of service includes:

Preliminary Design: Prepare site development design to indicate vegetation, concepts, site drainage, irrigation pattern, and site stabilization solutions.

Contract Documents: Prepare landscape site plans indicating locations and types of vegetation, ground cover, irrigation systems, drainage and slope stabilization. Prepare specs for construction documents.

#### **D4. Interior Design**

This category of service includes preparing space plans indicating layout of modular work stations or furniture, assisting in planning modular work station components and color coordination, and preparing specifications for bid documents.

#### **D5. Mechanical Design**

*Idaho professional engineer/mechanical engineer registration required.*

This category of service includes:

Preliminary Design: Prepare preliminary designs to indicate design concept, code requirements, materials proposed.

Design Development: Coordinate with architectural, electrical, structural and civil engineering plans. Develop outline specifications and cost estimate.

Construction Documents: Prepare plans and specifications for bid documents. Prepare final construction cost estimate.

Bidding: Answer questions during bidding and prepare addenda as may be required.

Construction Observation: Review shop drawing, submittals and make periodic site visits to observe construction and issue directives to the contractor. Review Operations and Maintenance Manuals.

#### **D6. Electrical Design**

*Idaho professional engineer/electrical engineer registration required.*

This category of service includes:

Preliminary Design: Prepare preliminary designs to indicate design concept, code requirements, materials proposed.

Design Development: Coordinate with architectural, structural, mechanical and civil engineering plans. Develop outline specifications and cost estimate.

Construction Documents: Prepare plans and specifications for bid documents. Prepare final construction cost estimate.

Bidding: Answer questions during bidding and prepare addenda as may be required.

Construction Observation: Review shop drawing, submittals and make periodic site visits to observe construction and issue directives to the contractor. Review Operations and Maintenance Manuals.

## **D7. Structural Design/Analysis**

*Idaho professional engineer/structural engineer registration required.*

This category of service includes:

Preliminary Design: Prepare preliminary designs to indicate design concept, code requirements, materials proposed.

Design Development: Coordinate with architectural, electrical, mechanical and civil engineering plans. Develop outline specifications and cost estimate.

Construction Documents: Prepare plans and specifications for bid documents. Prepare final construction cost estimate.

Bidding: Answer questions during bidding and prepare addendum as may be required.

Construction Observation: Review shop drawing, submittals and make periodic site visits to observe construction and issue directives to the contractor.

Analysis: Analyze structural systems in existing facilities for integrity or modifications for remodeling, restoration or additions.

## **E. ENVIRONMENTAL**

*Categories E1 through E9 should be performed in accordance with procedures outlined in the ITD Design Manual and the ITD Environmental Process Manual. The Consultant should be prepared to furnish raw data (i.e. GPS/GIS data) and background materials (i.e. records review information) to ITD upon request for categories of service E2 through E9.*

### **E1. Environmental Report Documentation and Management**

This category of service includes management of the Administrative Record and concise environmental documentation organized in an approved format. Environmental documentation may include Environmental Impact Statements, Records of Decision, Categorical Exclusions, Environmental Assessments, Findings of No Significant Impacts, and Section 4(f) documentation. Both paper and electronic copies of documentation may be required. Internet pages, video and/or photo documentation, and GIS data may also be required.

*Note: To prequalify for category of service E1, the Consultant must provide the best example of one of the following finished documents: an Environmental Impact Statement, an Environmental Assessment, or a Documented Categorical Exclusion. The report will not count against the page limitation set in the Request for Qualifications.*

### **E2. Noise Studies**

This category of service includes highway traffic noise related environmental services for Type I projects (new location, substantial alignment change, or addition of a through-traffic lane) performed in accordance with procedures set forth in 23 CFR 772 “Procedures for Abatement of Highway Traffic Noise and Construction Noise”; June 1995 USDOT/FHWA guidance entitled “Highway Traffic Noise Analysis and Abatement Policy and Guidance”; and the ITD Environmental Process Manual Section 1300. Compliance with the listed procedures may include conducting surveys and analysis, reporting findings, and/or preparing information for local jurisdictions disclosing future traffic noise levels and suggest land use planning and zoning efforts to minimize future noise impacts.

### **E3. Air Quality Analysis**

This category of service includes determination of the level of air quality analysis required through use of ITD screening criteria. It also includes preparation of project level air quality analysis when required.

### **E4. Wetlands**

This category of service includes wetlands identification, delineation, function and values assessment (MDT Montana Wetland Assessment method or other ITD/Corps of Engineers approved method), conceptual wetland mitigation plans, wetland mitigation design, wetland mitigation monitoring, section 404 permitting, and section 401 water quality certifications. GIS/GPS survey techniques and mapping may be required.

#### **E5. Water Quality Analysis, Hydrology, Stormwater and NPDES**

This category of service includes water quality, storm water, and municipal stormwater facility analyses; identification of Best Management Practices; and preparation of hydrologic studies, NPDES permits, Stormwater Pollution Prevention plans, and erosion and sediment control plans. This category also includes stormwater (NPDES) inspection of construction projects.

#### **E6. Biological Studies**

This category of service includes Endangered Species Act compliance, including preparation of Biological Evaluations or Assessments, monitoring plans, and mitigation plans. Fish passage and wildlife crossing analysis and design, biological studies and stream restoration may also be required.

#### **E7. Archaeological/Cultural**

This category of service includes cultural resources evaluation, research, and documentation performed by a qualified archaeologist or architectural historian in accordance with Section 106 of the National Historic Preservation Act. Procedures outlined in the ITD Environmental Manual include determining the cultural resource Area of Potential Effect (APE) [in consultation with the District Environmental Planner], conducting archaeological and historical evaluations, including survey and report production, determination of eligibility and effect, and preparation of Section 106 and Section 4(f) documentation (if 4(f) is required). The final product may also include the preparation of a Determination of Adverse Effect and Memorandum of Agreement as prescribed by, and in consultation with, the District Environmental Planner. The Consultant's Principal Investigator shall meet Secretary of Interior Standards in archaeology, history, architectural history, or related field. GIS/GPS survey techniques and mapping may be required.

#### **E8. Hazardous Materials/Waste**

This category of service includes site investigation assessments (all phases) and remediation for hazardous materials/waste, underground storage tanks, asbestos, lead paint, PCB's, and other potentially contaminated sites or structures. Site investigation may include records and field reviews, as identified in the Environmental Process Manual. Investigative capabilities should include nonintrusive methods as well as intrusive methods. This category of service also includes sampling of soil, water, structural materials, and unknowns for analysis to determine contamination levels or hazardous waste status in compliance with EPA and DEQ requirements.

#### **E9. Visual Assessment**

This category of service includes visual inventory and visual analysis to support planning models. Visual simulations may be required.

## **F. TRANSPORTATION PLANNING**

### **F1. Public Involvement**

This category of service includes developing models, strategies and procedures for effective public involvement in regard to the department's projects, programs and plans.

### **F2. Public Relations**

This category of service includes providing expert assistance/advice in the art and science of public relations and communication strategies with the public and media.

### **F3. Public Opinion Research**

This category of service includes public opinion polling/surveying on transportation issues.

### **F4. Photography**

This category of service includes professional photography for department projects, publications, and promotions.

### **F5. Videography**

This category of service includes video production (including editing), 3D animation, and digital video effects for department projects and promotions.

### **F6. Graphic Arts**

This category of service includes graphic design services including conceptual support; design of logos, brochures and other publications; and technical production assistance.

### **F7. Studies and Plans**

This category of service includes:

Highway Needs Study: Road inventory & data collection, economic analysis, highway finance, funding shortfalls, cost responsibilities & revenue distribution, reporting and presentations.

Scenic Byway Corridor Management Plans: Work with local government officials and interest groups to develop plans to protect scenic corridors while allowing for growth and economic development, publish plans, and make presentations.

Corridor Planning: Develop long-range (20 year) plans for state highway corridors in accordance with the *Idaho Corridor Planning Guidebook*. The plans combine the technical elements of policy planning and traffic engineering with local concerns, needs and land uses.

Highway Modal Plan: Gather data, establish and manipulate databases, run models, prepare maps and gather public input on all features of the highway system, present and future.

Strategic Planning and Economic Forecasting: Use principles of strategic planning in the public sector. Requires a background in public sector financing/budgeting/ forecasting.

Idaho Transportation Plan: Employ knowledge of federal requirements and facilitating long-range (20 years+) transportation planning efforts. Make presentations/facilitate meetings and publish reports.

Rail and Intermodal Planning: Statewide and project-specific rail planning, intermodal transportation planning and intermodal facility feasibility studies. Make presentations, facilitate meetings and publish reports.

Interstate Point of Access Studies: Utilize knowledge of federal requirements and experience in conducting access study. Make presentations, facilitate meetings and publish reports.

Bicycle/Pedestrian Plan: Employ knowledge of federal requirements and experience in assembling data and producing a statewide plan. Make presentations, facilitate meetings and publish reports.

Performance Management: Identify ways to integrate transportation features with an agency's policy, goals and objectives using innovative investment strategies.

Travel Demand Modeling: Project the results of proposed transportation improvements and civic infrastructure growth using the four-step process: trip generation, distribution, mode choice, and assignment.

#### **F8. GIS Mapping, Database Design and Application Development-**

This category of service includes employment of the knowledge, skills and abilities of GIS/CAD software. Required skills range from the ability to generate digital and hardcopy map products to spatial analysis of transportation and environmental conditions using GIS/CAD tools. This category may also include development of specialized databases, providing expertise in the integration of existing spatial and tabular data stores, and providing guidance to ITD employees in the development of their GIS capabilities.

#### **F9. Visualization Services**

This category of service includes 2D, 3D, and 4D Services. 2D includes graphics for concept development and public information. 3D includes terrain modeling and photo simulations. 4D supports interactive, real-time applications.

## **G. CONSTRUCTION ENGINEERING & INSPECTION**

### **G1. Project Management**

*A Professional Engineering License is preferred but not required for this category of service.*

This category of service includes the management of highway construction projects that employ the use of Federal-aid funding. It includes:

- 1) Constructability reviews;
- 2) Pre-bid conferences (includes the ability to interface with contractors during the bidding phase of the project);
- 3) Pre-construction conferences;
- 4) Day-to-day administration of highway construction projects, including the management of inspection staff and project documentation; and
- 5) Presentation of the project at completion to the Department for final review and acceptance, and certification that all work has been done in accordance with the policies and procedures of the ITD and FHWA.

### **G2. Partnering**

This category of service includes the participation in the partnering process and a demonstrated commitment in the use of this process for disputes resolution.

### **G3. Value Engineering**

This category of service includes constructability reviews, re-engineering workshops, facilitation and/or participation on value engineering teams.

### **G4. Claim Analysis**

*A Professional Engineering license is preferable but not required for this category of service. Consultant need not be a licensed attorney.*

This category of service includes the analysis of construction claims including entitlement, quantum and schedule analysis. Broad experience in engineering and construction and a thorough working knowledge in the area of construction contract law are required.

### **G5. Audit**

*A CPA license is required for this category of service.*

This category of service includes auditing construction claims for the purpose of cost verification. Demonstrated knowledge and experience regarding federal procurement regulations and Federal Acquisition Cost Principles, 48 CFR Part 31 is required.

## **G6. Construction Inspection**

This category of service includes inspection of construction projects. Inspector qualifications as outlined in Section 114 of the Contract Administration Manual, and experience in the day-to-day inspection common to heavy highway construction are required for this category of service.

## **G7. Construction Materials Testing**

This category of service includes materials testing (aggregate, concrete, asphalt, etc.) at construction projects. Sampler/Tester (WAQTC) qualifications as outlined in Section 114 of the Contract Administration Manual, and experience in the field sampling and testing common to heavy highway construction are required for this category of service. All equipment used in the testing process will meet the requirements of ITD's Laboratory Qualification Program

## **H. GEOTECHNICAL/MATERIALS**

*Idaho professional engineering license required for categories of service H1 through H4.*

### **H1. Project Development**

This category of service includes preparing Materials Phase Reports as outlined in the ITD Design and Materials Manuals. Other possible areas of service include plan sheet and proposal preparation.

#### **H1a. Materials Report - Phase 1**

Produce Materials Phase 1, Geology Reconnaissance reports.

#### **H1b. Materials Report Phase 2**

Produce Materials Phase 2, Soil reports.

#### **H1c. Materials Report Phase 3**

Produce Materials Phase 3, Pavement reports.

#### **H1d. Materials Report Phase 4**

Produce Materials Phase 4, Foundation Investigation reports for structures.

#### **H1e. Materials Report Phase 5**

Produce Materials Phase 5, Special Provision report.

#### **H1f. Pavement Rehabilitations**

Produce special reports on pavement rehabilitation projects. Analyze results from non-destructive testing and prepare engineering report of the results; provide asphalt and Portland cement concrete designs.

#### **H1g. Geotechnical Engineering**

Produce special geotechnical reports, such as reports on land slides, cut slope stability, corrections for settlement, liquefaction problems, etc.

### **H2. Subsurface Investigation**

#### **H2a. Drilling and Sampling**

This category of service includes subsurface investigations, including drilling and digging test pits. Obtain disturbed and undisturbed samples. Perform field tests such as SPT, Cone Penetration, vane shear, etc. Install and monitor geotechnical monitoring instrumentations, such as piezometer, inclinometer, etc.

### **H2b. Exploration Supervision and Analysis**

This category of services includes on-site supervision during subsurface investigation, which includes logging bore holes or test pits, keeping field records, directing investigation activities, etc. This category also includes analyzing data from subsurface investigation, field and lab test results.

### **H3. Materials Laboratory Testing**

This category of service includes various AASHTO, ASTM, and ITD standard tests on materials such as concrete, hot mix asphalt, aggregate, paint, soils, rock, steel, etc. Must be AASHTO accredited or qualified through ITD's Laboratory Qualification Program including Sampler / Tester qualifications.

### **H4. Non-Destructive Testing for Pavements**

This category of service includes non-destructive testing of pavements and structures. Tests may include Ground Penetrating Radar, Falling Weight Deflectometer, Locked Wheel Skid test, Impact Echo, Profiling, Pavement roughness, etc. Provide test records, analysis of test results, recommendations, etc.

## **J. INTELLIGENT TRANSPORTATION SYSTEMS**

### **J1. Planning**

This category of service includes planning and guidance for future implementation and deployment of ITS technologies in accordance to the National ITS Architecture and NTCIP Standards as well as preliminary cost analysis.

### **J2. Design**

This category of service includes design any or all phases of implementation and deployment of ITS technologies in accordance with the National ITS Architecture, NTCIP Standards, the ITD Design Manual, the Manual on Uniform Traffic Control Devices as adopted by the State, and the ITD Traffic Manual.

### **J3. Implementation/ Deployment**

This category of services includes guidance for implementation and deployment of ITS technologies in accordance to the National ITS Architecture, NTCIP Standards, the ITD Design Manual, the Manual on Uniform Traffic Control Devices as adopted by the State, and the ITD Traffic Manual.